



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,520	09/24/2003	Masanobu Sato	P/4178-9	4349
2352 7590 02/23/2007 OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			EXAMINER TADESSE, YEWEBDAR T	
			ART UNIT	PAPER NUMBER
			1734	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/23/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/669,520

**Applicant(s)**

SATO ET AL.

**Examiner**

Yewebdar T. Tadesse

**Art Unit**

1734

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-7,9-11,47,48 and 50-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-7,9-11,47,48 and 50-58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. The final action sent on 01/23/2007 is resent with the inclusion of newly added claims 56-58 rejections. Examiner inadvertently missed to include these claims rejections. As seen in the response to arguments on the action mailed on 01/23/2007, examiner made clear remarks that the subject matter of these claims is capable of being met by JP'805.

### **Information Disclosure Statement**

2. The information disclosure statement filed on May 11/09/2006 is considered. Attached is also IDS filed on 06/27/2005 (form with line through), which is a duplication of IDS filed on 11/09/2006 and 07/18/2005.

It is noted that there is no mention of English translation of the Japanese Office Action issued April 17, 2006, which was not provided with the IDS filed on May 8, 2006 by the applicants in the response filed on 11/09/2006.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 2-7, 55-56 and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 10-116805.

Art Unit: 1734

As to claims 2- 4 and 57 JP'805 discloses (see paragraph 6, Figs 1, 3b and 3d) a substrate processing apparatus that a processing liquid (drug solution with an etching) is supplied to one major surface of a substrate and one major surface is subjected to predetermined substrate processing, comprising: an atmosphere blocking member (base 1) which is faced with other major surface of the substrate and that is away from the substrate (W); and a gas supply unit (gas 11) which supplies an atmosphere gas to a space which is created between the atmosphere blocking member (base 1) and the substrate (W) , a rotation means rotating the base with the substrate and wherein the atmosphere blocking member (base 1) which is faced with other major surface of the substrate and that is away from the substrate (W) becomes closer to the substrate with a distance toward a periphery edged of the atmosphere blocking member (see Figs 3b and 3d). JP'805 further discloses a central area of the substrate –facing surface which is faced with an approximately central portion of the substrate is flat surface (see particularly Fig 3d) and a periphery edge area of the substrate-facing surface of the atmosphere blocking member (base 1) which is faced the periphery edge of the substrate is angles surface which becomes closer to the substrate with a distance toward a periphery edge of the substrate-facing surface. In JP'805 the substrate is capable of having a notch at a periphery edge and the atmosphere blocking member is capable of having a diameter which is smaller than a diameter of the substrate by a width of a notch at a periphery edge of the substrate depending the size and type of the substrate. Additionally, JP'805 discloses at least three or more support members (3), which are disposed at the periphery edge of the atmosphere-blocking member (base 1)

Art Unit: 1734

abutting on an edge surface of the substrate and supporting the substrate (see paragraph 26 and Figs 1, 3b and 3d).

With respect to claims 5-7, in JP'805 the support member (3) comprises a contact surface in line contact with the edge surface of the substrate, wherein a width of the contact is the same as the width of a portion of the line of contact and the line of contact becomes narrower with a distance away from the substrate (see Figs 2a-2d and 3a-3d).

As to claims 55-56, JP'805 discloses (see paragraph 6, Figs 1, 3b and 3d) a substrate processing apparatus that a processing liquid (drug solution with an etching) is supplied to one major surface of a substrate and one major surface is subjected to predetermined substrate processing, comprising: an atmosphere blocking member (base 1) which is faced with other major surface of the substrate and that is away from the substrate (W); and a gas supply unit (gas 11) which supplies an atmosphere gas to a space which is created between the atmosphere blocking member (base 1) and the substrate (W), a rotation means rotating the base with the substrate and wherein the atmosphere blocking member (base 1) which is faced with other major surface of the substrate and that is away from the substrate (W) becomes closer to the substrate with a distance toward a periphery edge of the atmosphere blocking member (see Figs 3b and 3d). Additionally in JP'805 the atmosphere-blocking member becomes closer to the substrate over the entire circumference of the atmosphere-blocking member (see Figs 3a-3d). Furthermore, In JP'805 the substrate is capable of having a notch at a periphery edge and the diameter of the atmosphere blocking member is capable of

Art Unit: 1734

being smaller than the diameter of the substrate by width of a notch at periphery edge of the substrate depending the size and type of the substrate, especially in the embodiment of Fig 3C the support members (3) have extended outside of the base (1).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 9, 47-48, 50-53 and 58 rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-116805 in view of Wen (US 6,239,038).

As to claims 9, 47-48 and 58, JP'805 discloses (see paragraph 6, Figs 1, 3b and 3d) a substrate processing apparatus that a processing liquid (drug solution with an

Art Unit: 1734

etching) is supplied to one major surface of a substrate and one major surface is subjected to predetermined substrate processing, comprising: an atmosphere blocking member (base 1) which is faced with other major surface of the substrate and that is away from the substrate (W); and a gas supply unit (gas 11) which supplies an atmosphere gas to a space which is created between the atmosphere blocking member (base 1) and the substrate (W), a rotation means rotating the base with the substrate and wherein the atmosphere blocking member (base 1) which is faced with other major surface of the substrate and that is away from the substrate (W) becomes closer to the substrate with a distance toward a periphery edged of the atmosphere blocking member (see Figs 3b and 3d). JP'805 further teaches at least three or more support members (3) which are disposed at the periphery edge of the atmosphere-blocking member (base 1) abutting on an edge surface of the substrate and supporting the substrate (see paragraph 26 and Figs 1, 3b and 3d). In JP'805, the substrate is capable of having a notch at a periphery edge and the diameter of the atmosphere blocking member is capable of being smaller than the diameter of the substrate by width of a notch at periphery edge of the substrate depending the size and type of the substrate, especially in the embodiment of Fig 3C the support members (3) have extended outside of the base (1). In this embodiment the base or atmosphere blocking member is capable of having a diameter smaller than the substrate. In any event Wen discloses (see column 4, lines 11-21) adjustable mounting members (fingers 42), one in the art would adjust support members in order to install different sizes of substrate (a substrate having smaller or larger diameter than the diameter of the atmosphere blocking member or



Art Unit: 1734

base). As such, It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a substrate having larger diameter than the diameter of the atmosphere blocking member as desired.

With respect to claims 50-52, in JP'805 the support member (3) comprises a contact surface in line contact with the edge surface of the substrate, wherein a width of the contact is the same as the width of a portion of the line of contact and the line of contact becomes narrower with a distance away from the substrate (see Figs 2a-2d and 3a-3d).

As to claim 53, JP'805 lacks teaching a transportation unit transporting the substrate to the processing unit. Wen discloses (see fig 7) a transportation unit (transfer units 118,119), which transports substrates to the processing unit. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a transportation unit in JP'805 to move the substrate in and out of the processing unit.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-116805 as applied to claim 4 and further in view of Wen (US 6,239,038).

JP'805 lacks teaching a transportation unit transporting the substrate to the processing unit. Wen discloses (see fig 7) a transportation unit (transfer units 118,119), which transports substrates to the processing unit. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a transportation unit in JP'805 to move the substrate in and out of the processing unit.



9. Claim 11 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-116805 and Wen (US 6,239,038) as applied to claim 9 and 10 and further in view of Matsukawa et al (US 5,518,542). JP'805 as modified lacks teaching a reversing unit, which reverses substrate. Matsukawa et al discloses (see Figs 6-7 and Abstract) double-sided substrate cleaning apparatus having a transportation unit (conveying mechanism 5) to transfer the substrate from processing unit and reversing unit (reversing mechanism 10) to reverse the substrate. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a reversing unit in JP'805 in case one of the upper or the lower processing fluid supplying means is not working and reversing of the substrate is required.

### ***Response to Arguments***

10. Applicant's arguments filed 11/08/2006 have been fully considered but they are not persuasive for the following reasons. JP'805 alone and/or in combination with others structurally meets the claimed apparatus as shown above in the rejections. JP'805's atmosphere blocking member is capable of having a diameter smaller than a diameter of the substrate depending the size of the substrate (by treating a substrate having a diameter larger by a width of a notch than the diameter of the atmosphere blocking member). It is noted that JP'805 device is capable of treating different types of substrate including a substrate having a notch portion at a periphery edge of the substrate. Additionally, in JP'805 the diameter of atmosphere blocking member is

Art Unit: 1734

capable of being smaller or larger than the diameter of the substrate by width of a notch at a periphery edge of the substrate depending the size (diameter) of the substrate treated by the device. The diameter of the atmosphere-blocking member is also capable of being equal to the diameter of the substrate.

The limitation comparing the size of the atmosphere-blocking member to the size of the substrate is "an intended use" of the apparatus. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus shows all of the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) Furthermore, **"expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim."** *Ex parte Thibault*, 164 USPQ 666,667 (Bd. App. 1969). Thus, the **"inclusion of material or article worked upon does not impart patentability to the claims."** *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 (USPQ 458, 459 (CCPA 1963)). In this case the inclusion of intended operation (comparing parts of the apparatus with the article worked (size of the article) upon does not impart patentability to the claimed apparatus.

Lastly, the use of a substrate or wafer having a notch portion is well known in the art; for instance - as evidenced by Mito (US 2002/0106445 A1, see paragraph 55) notch portion of a wafer is used for the purpose of positional detection of the substrate.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T. Tadesse whose telephone number is (571) 272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1734

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
YTT